R. W. THOMSON.

FINISHING ROLL AND COVER THEREFOR.

APPLICATION FILED MAY 15, 1912.

1,189,311. Patented July 4, 1916.

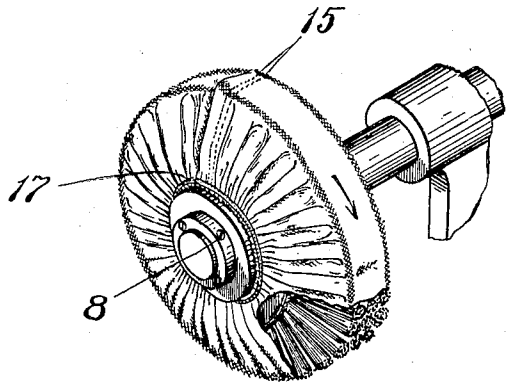


Fig. 1.

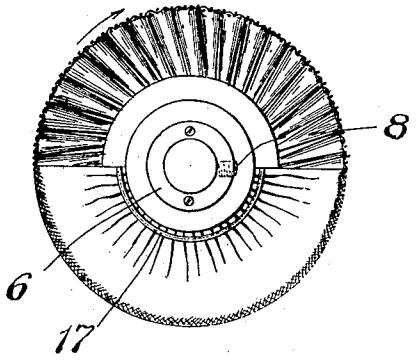


Fig. 2.

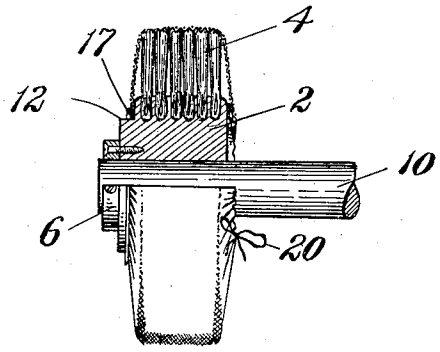


Fig. 3.

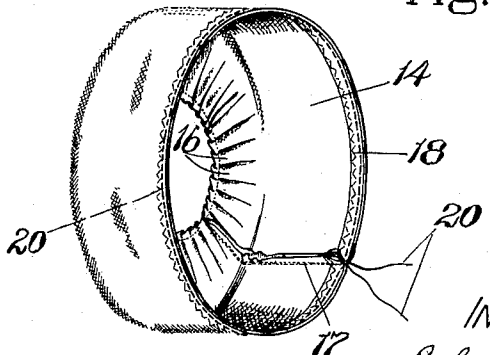


Fig. 4.

WITNESSES.

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THE NORRIS PETERS CO., PHOTO-LITHO. WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ROBERT W. THOMSON, OF LYNN, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

FINISHING-ROLL AND COVER THEREFOR.

1,189,311. Specification of Letters Patent. Patented July 4, 1916.

Application filed May 15, 1912. Serial No. 697,431.

To all whom it may concern:

Be it known that I, ROBERT W. THOMSON, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain Improvements in Finishing-Rolls and Covers Therefor, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to tools and devices of the character employed in the manufacture of boots and shoes for performing the finishing operations.

It is usual in finishing the heels and bottoms of shoes to present these parts to the action of a rotating pad, which usually consists of a hub having a thick peripheral covering of yielding material, and a removable cover having the required characteristics for treating the work. It is a very general practice to use a rotary bristle brush for the body of this pad and to use for the cover a band of textile fabric that is stretched over the periphery of the brush and is secured in place by strings fastened to the cover. Since these covers receive practically all the wear caused by the friction of the work, they deteriorate very rapidly and must be replaced frequently. Many of the devices of this character in common use are open to the objection that they require the exercise of considerable care and judgment on the part of the workman in replacing the covers in order to get them properly centered upon the brush or other work roll. It will be evident that, if the cover is out of center, it will be loose on one side and tight on the other, thus producing an irregular or jerky action when the work is pressed against it; and it may even bunch and wrinkle up on the loose side sufficiently to interfere with the finishing operation. The various styles of covers in common use are also open to the objection that they are so constructed as to require the expenditure of considerable time in securing them properly upon the work roll.

It is the purpose of this invention to overcome these objections. To this end the invention provides an improved construction of work roll having provision for enabling the workman to center the cover on the roll quickly and accurately.

The invention further provides a cover of novel construction which can be manufactured cheaply and can be secured in working position upon the roll much more quickly than the covers heretofore used.

The invention will be readily understood from the following description, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view of a finishing pad constructed in accordance with this invention; Fig. 2 is an end elevation partly in section of the pad shown in Fig. 1; Fig. 3 is a side elevation partly in section of the device shown in Fig. 1; and Fig. 4 is a perspective view of a cover embodying this invention.

The body of the finishing tool shown in the drawings consists of a rotary brush having a hub 2, any suitable number of rows of bristles 4 projecting therefrom and forming a peripheral covering for the hub, and a collar 6 secured to one end and carrying a set screw 8, by means of which the brush may be clamped on a driving shaft 10. The hub of the brush is provided at one end with an extension, in the present instance of smaller diameter than the hub and concentric therewith, the periphery of this extension forming a narrow shoulder 12. The cover for this roll comprises a strip 14 of textile fabric or other material suited to the requirements of the work, the ends of the strip being sewed together to form an endless band. One edge of this band is gathered or plaited, as indicated at 16, and is permanently held in this condition by one or more lines of stitches. A cord 17 is secured to the cover by this stitching and serves as a reinforcement to take the strain that otherwise would come directly on the stitches. The opposite edge of the band is turned over and stitched to form a hem or run 18 for a gathering string 20. Preferably, the circular aperture formed by the edge 16 of the cover is of a diameter substantially equal to the diameter of the circular shoulder 12 on the brush hub 2. Consequently, when the cover is pulled on to the brush the edge 16 will fit snugly over the shoulder 12 and since this shoulder is

concentric with the periphery of the brush the cover will be accurately centered thereon. The shoulder 12, therefore, serves as a guide to center the cover correctly on the brush. Preferably, the band 14 is of smaller diameter than the periphery of the brush so that, when it is placed in its working position, it will bend the ends of the bristles in a direction opposite to the direction of rotation and thereby will afford a very yielding surface for operation on the work. After the cover has been placed on the brush in the manner described, it is merely necessary then for the workman to pull the gathering string 20 for the purpose of stretching the hemmed end of the cover tightly over the brush. Afterward, the ends of the string are tied as indicated in Fig. 3 or they may be tied to the shaft on which the brush is mounted. It will be evident that the entire operation of placing a cover on the brush and fastening it in working condition requires but a moment and that the correct positioning of the cover is insured by the guiding shoulder 12.

The ends of the strip forming the band 14 may be lapped and stitched, as indicated at 15, Fig. 1, with the lap extending oppositely to the direction of rotation of the brush; but, inasmuch as this construction would require the making of covers in rights and lefts, I prefer to turn the ends of the strip inwardly and stitch them together in the manner indicated at 17 in Fig. 4. With this construction the cover may be driven in either direction.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

A work rubbing tool comprising a rotary brush having a hub and an extension projecting concentrically from one end of said hub, providing a peripheral shoulder of smaller diameter than said hub, a cover on said brush comprising an endless band of smaller diameter than the brush having one edge formed as a circular aperture by permanently gathering said edge, said aperture fitting over said extension and resting on said shoulder, a hem formed in the other edge of said cover and a gathering string running through said hem.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT W. THOMSON.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."